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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SCHEIBEL, ROBERT C

ART UNIT	PAPER NUMBER
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2666

DATE MAILED: 07/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/821,776

Applicant(s)

SAINT-HILAIRE ET AL.

Examiner

Robert C. Scheibel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-11,13-16,23,24 and 26-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-11,13-16,23,24 and 26-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see paragraph 2 on page 8, filed 5/3/2004, with respect to the objections to the specification as not providing adequate support for claims 17-21 have been fully considered and are persuasive. The objection to the specification as not supporting claims 17-21 has been withdrawn.
2. Applicant's arguments, see paragraph 3 on page 8, filed 5/3/2004, with respect to the rejections of claims 18 and 19 under 35 U.S.C. 112, second paragraph, have been fully considered and are persuasive. The rejection of claims 18 and 19 (now cancelled) has been withdrawn.
3. Applicant's arguments, see paragraphs 5-7 of the Remarks section on pages 8-9, filed 5/3/2004, with respect to the rejections of claims 1-3, 5-7, 9-11, 13-15, 17-19, 21, 23, and 25-27 under 35 U.S.C. 103 (a) and the rejection of claims 1-27 under 25 U.S.C. 103 (a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, new grounds of rejection are made in view of U.S. Patents 5,751,719, (Chen et al), 6,522,880 (Verma et al), and 6,137,802 (Jones et al). These new grounds of rejection are necessitated by the amendments to the claims included in the response by the applicant of 5/3/2004.

In paragraphs 5 and 6, applicant argues that all the limitations of the amended claims are not taught by the references used in the previous rejection. Specifically, applicant argues that the automatic selection of interfaces and the

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communication starting with the information immediately adjacent to the received information most recently transmitted to the destination are not taught by the references used in the previous rejections. Regarding the automatic selection of interfaces, the examiner agrees that neither Chen nor U.S. Patent 6,161,123 (Renouard et al) discloses this limitation. However, Jones (cited in the previous office action) teaches this limitation. Therefore, the claims are rejected below as necessitated by amendment. Regarding the communication starting with the information immediately adjacent to the received information, the examiner maintains (as in the previous office action) that Verma teaches this limitation.

In paragraph 7, applicant argues that the subject matter of the new claims is also not taught by the art used in the previous rejection. However, these claims are obvious over the prior art as described in the rejection below.

Specification

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the specification does not describe the limitation of "closing a current interface" of claims 1, 9, 23, and 28.

Claim Objections

5. Claim 9 objected to because of the following informalities: the wording in the claim is not consistent. Specifically:

- in lines 4 and 6, "automatically determining" should be "automatically determine";
- in line 9, "operating" should be "operate";
- in line 14, "determining" should be "determine";
- in line 15, "closing" should be "close" and "establishing" should be "establish".

The applicant should review the entire claim as well as the remaining claims to ensure that all similar inconsistencies are corrected.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims **1-3, 5-11, 13-16, 23-24, 26-31** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,751,719 to Chen et al in view of U.S. Patent 6,522,880 to Verma, et al and in further view of U.S Patent 6,137,802 to Jones, et al.

Regarding claims **1 and 9**, Chen discloses the step and instruction of altering a record in Figure 6A; if an ack is received, the value of L and Ltemp are

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updated in the transmitter. Chen also discloses the step of transmitting information based on the record after the new connection is established in steps 216 and 218 of figure 3C.

Regarding claims **23 and 28**, Chen discloses the step of maintaining a count and the tracking function in the updating of the value of H stored in the RAM 22 of figure 5A and described in column 9, line 62 through column 10, line 10. Chen discloses the step of receiving an acknowledgement in step 309 of Figure 6A and the step of altering the count of information and the limitation of maintaining the information until the destination indicates the information has been received in step 310 of Figure 6A. Chen discloses the limitation of maintaining a count of the last information received by the destination in L of Figure 6A. Chen discloses the step of establishing a new link in step 210 of figure 3C. Chen also discloses the step of determining what information to transmit based on the count in steps 216 and 218 of Figure 3C.

Chen does not disclose expressly the transmitter being the mobile unit. In addition, Chen does not disclose expressly the step of transmitting information starting with the information adjacent to the most recently transmitted data.

Verma discloses a method for maintaining a session between a mobile node 20 and a tunnel endpoint server 50 or 250 in the presence of mobile handovers. This session is bi-directional as shown in figure 7. This bi-directional nature of the session discloses the mobile unit functioning as a transmitter. In addition, Verma discloses transmitting information from the mobile unit to the

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destination starting with the information adjacent to the most recently transmitted to the destination in lines 16-19 of column 10.

Chen and Verma are analogous art because they are from the same field of endeavor of maintaining data communications in the presence of a disconnection of one of the links in a route between two end points.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Chen by applying the same method for transmitting from element 80 to element 20 of figure 1. The motivation for doing so would have been to enable data to be reliably transmitted both to **and** from a mobile device. This is suggested by the bi-directional links shown in Figure 7 of Verma.

Additionally, at the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Chen by transmitting the packet after the one most recently transmitted (H+1) while waiting for the status messages of step 214 of figure 3C. The motivation for doing this would have been to minimize the recovery from the disconnection. This would be extremely beneficial in the case where no packets were lost in transmission, and only the acknowledgements were lost due to the disconnection of the link.

Chen, as modified, does not disclose expressly the limitations of automatically determining one of a plurality of interfaces, operating using a selected interface, and determining if a new interface should be opened and if so, closing a current interface and establishing the new interface.

Jones discloses these additional limitations in Figures 7-10. Specifically, in figure 9, Jones discloses the limitation of automatically determining (the flow in this figure is automatically performed) one of a plurality of interfaces (wired or wireless) to use between a mobile device and a destination, said automatically determining using a list of interfaces from most preferable to least preferable (user preference decision block 904), and selecting a most preferable available interface on the list (the selection made from decision block 904). Jones also discloses the limitation of operating using a selected interface in the transitions to states 1,2, or 4 (as appropriate) in figure 9. Jones discloses the limitation of determining if a new interface should be opened, and if so, closing a current interface, and establishing the new interface connection in Figure 10. If switching from wireless to wired (or vice versa), the selected interface is opened (step 704) and the current interface is closed (steps 1003 or 1004).

Jones and Chen are analogous art because they are from the same field of endeavor of data communications. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify Chen, as modified above, to automatically select one of a number of interfaces as specified in Jones. The motivation for doing so would have been to easily switch between wired and wireless interfaces (or among multiple wireless interfaces) as suggested by Jones in lines 5-16 of column 2.

Therefore, it would have been obvious to combine Jones with Chen, as modified by Verma, for the benefit of transmitting to and from a mobile device to obtain the invention as specified in claims 1, 9, 23 and 28.

Regarding claims **2 and 10**, Chen discloses the record including an amount of information transmitted in the updating of H stored in the RAM 22 of figure 5A and described in column 9, line 62 through column 10, line 10.

Regarding claims **3, 11, and 27**, Chen discloses the acknowledgement including the amount of received information in the L_r value described in lines 57-61 of column 11.

Regarding claims **5, 13, and 25**, Chen discloses transmitting after a new connection is established by starting with the information adjacent to that last received in lines 55-59 of column 6.

Regarding claims **6 and 14**, Chen discloses removing the received information from the record by updating the value of L as shown in Figure 6A. The value of L defines the lower boundary of the window of information that has yet to be acknowledged by the receiver. The acknowledged data is effectively removed from this window when it is updated as shown in figure 6A. This is consistent with applicant's description that removing the information from the buffer does not necessarily mean deleting the information from memory (see paragraph 47 on page 17 of the application.)

Regarding claims **7, 15, and 26**, Chen discloses the link being a reliable link. The entire invention discusses a data file transfer as a primary example (for example, see lines 18-25 of column 2). It is well known that when transferring a file, data loss is not acceptable and therefore, the link discussed in Chen is reliable. This is further suggested in lines 6-10 of column 2 where Chen

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discusses the necessity (in the prior art) of retransmitting an entire file if part of it is not received.

Regarding claims **8 and 16**, with the features of the parent claims 1 and 9 addressed above, Chen does not disclose expressly the limitation of the destination including a home network associated with the mobile unit. Verma discloses the limitation of the destination including a home network. The tunnel endpoint server (50 or 250) is the "home agent" for the mobile node as indicated in lines 24-27 of column 2. Lines 52-55 further indicate that the home agent is used to connect the home subnet with the mobile node.

Chen and Verma are analogous art because they are from the same field of endeavor of maintaining data communications in the presence of a disconnection of one of the links in a route between two end points.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Chen by making element 20 a home agent. The motivation for doing this would be to provide mobile connectivity to the mobile node's home network using a protocol such as "Mobile IP". This would allow the mobile unit 80 to access its home network while not physically connected to this network. This is suggested in lines 13-40 of column 1 of Verma.

Therefore, it would have been obvious to combine Verma with Chen for the benefit of mobile connectivity to a home network to obtain the invention as specified in claims 8 and 16.

Regarding claims **24**, with the features of the parent claims 23 addressed above, Chen does not disclose expressly the step of transmitting information

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starting with the information adjacent to the most recently transmitted data.

Verma discloses transmitting information from the mobile unit to the destination starting with the information adjacent to the most recently transmitted to the destination in lines 16-19 of column 10.

Chen and Verma are analogous art because they are from the same field of endeavor of maintaining data communications in the presence of a disconnection of one of the links in a route between two end points.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Chen by transmitting the packet after the one most recently transmitted (H+1) while waiting for the status messages of step 214 of figure 3C. The motivation for doing this would have been to minimize the recovery from the disconnection. This would be extremely beneficial in the case where no packets were lost in transmission, and only the acknowledgements were lost due to the disconnection of the link.

Therefore, it would have been obvious to combine Verma with Chen for the benefit of minimizing the recovery from disconnection to obtain the invention as specified in claims 24.

Regarding claims **29, 30, and 31**, Chen, as modified above, does not disclose expressly the limitation of the determining step comprising using information obtained by the mobile device to determine when it is leaving an active range of any active interface.

Jones discloses the limitation of the determining step comprising using information obtained by the mobile device to determine when it is leaving an

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active range of any active interface in lines 36-40 of column 1 and from line 66 of column 9 through line 6 of column 10. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify Chen, as modified, to further include the ability of Jones to switch between multiple wireless interfaces. The motivation for doing so would have been to allow the subscriber to be mobile as suggested by Jones in lines 36-40 of column 1. Therefore, it would have been obvious to combine the mobile handoff teaching of Jones with Chen, as modified, to obtain the invention as specified in claims 29, 30, and 31.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert C. Scheibel whose telephone number is 703-305-9062. The examiner can normally be reached on 6:30-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached on 703-308-5463. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RCs 7-9-04

Robert C. Scheibel
Examiner
Art Unit 2666

DAKINGTON
REGISTERED EXAMINER